

**SOLAR ELECTROLYSIS POWER CO-GENERATION SYSTEM**

**ABSTRACT OF THE DISCLOSURE**

5        A solar electrolysis power co-generation system includes a solar electrolysis source and a control unit. The solar electrolysis source includes a solar panel, an electrolysis unit, a hermetically sealed compressor, a hydrogen tank, and a hydrogen-powered fuel cell and produces, compresses, and stores hydrogen gas that is used to fuel the fuel cell. The control unit includes an  
10      inverter, a microprocessor, and a modem. The control unit connects the solar electrolysis power source with a power grid and with an individual consumer having an electrical load. The power co-generation system utilizes the electrolysis of water and solar energy to power a fuel cell. The energy produced with the fuel cell may be provided to an existing power grid as well as  
15      to an individual consumer. Further a method for decentralized power co-generation includes the step of providing a plurality of solar electrolysis power co-generation systems.